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OPEN PEER REVIEW

Diagnostic Value of Apparent Diffusion Coefficient Statistics in Differentiating the Glioblastoma Tumors with an Oligodendroglioma and Glioblastomas Without Such Moiety

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About this report

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1 Original submission

0 comments

No public comments in this round.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear Editor,

Thank you for your constructive comments. We revised the comments point by point and highlighted changes in the text.

1) the details of multivariable regression analysis should be provided in a table

Reply: It is revised and added details in table 3.

2) what was the partial contribution of VAT and NAT in determining IMT?

Reply: In Table 3, we showed regression results details that showed the effect of all variables in the model.

3) NAT had a stronger correlation with IMT in females than males? please discuss it

Reply: It is revised and added details in the discussion part.

4) the details of the sample size calculation should be given.

Reply: It is revised and added details in the methods.

5) Confidence intervals of r and beta values should be mentioned.

Reply: It is revised and added details in table 3.

Best regards,

2 Revision 1

1 comment · 8 Mar 2023

Referee 1 Reviewer

MINOR REVISION 8 Mar 2023

Dear Editor,
Most of the comments were adequately addressed. Some minor issues remain and need revision.

1- The details of the sample size calculation should be given.
2- The reported ethical code is not compatible with the title of the manuscript. In this regard, please see the attached file.

Regards

3

Revision 2

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear Editors,

Thank you for your constructive comments. We replied and highlighted them in the text.

1- Please clarify FOF stand for what in Table 1 and 2?

Reply: First-Order Histogram (FOH) is correct. It is revised.

2- In Table 1, the median, min and max of mean for total reported as 10.201 (0.111; 2.554). It is impossible for the middle to be larger than the maximum.

Reply: It is revised.

3- In the statistical analysis, the authors stated that “Using ROC analysis proper cut-off values, according to sensitivity and specificity indices, were obtained; these cut-offs could be usable for the clinical diagnosis and decision making before any surgical interventions”. This is not a part of method and should be removed.

Reply: It is revised.

4- English is not fluent and in some cases it is difficult to follow. The text needs editing.

Reply: It is revised.

5- Add a sample size formula to the manuscript.

Reply: It is revised.

6- Analyzes are prone to multiple comparison bias. Please consider this issue in the analysis.

Reply: It is revised.

7- In Table 4, the authors reported the mean of AUC, it seems that it is not true. Only one AUC is calculated for each variable.

Reply: Table 4 consists only of the results of the Edematous group which had more significant results than Tumor and T1W+GAD groups. Table 4 shows that some cut-off values may be important for differential diagnosis of glioblastoma with an oligodendroglial component from a glioblastoma tumor without such components.

8- Some of the main sentences of the manuscript, such as the following sentence, are not written properly and needs to be recheck.

The FOHs with these Cut-off values had statistically significant outcomes in the peritumoral edema region when compared between GBM-ODG and GBM categories: Median>1.3516, Normal Mean>0.6671, Third moment≤-0.0001, 25 Percentile>0.5929, 75 Percentile>0.7336, and 95 Percentile>0.8542.

Reply: It is revised.

9- On what basis are the proposed cut-offs selected? In some cases the sensitivity may be high and in some cases specific.

Reply: We chose the best points based on comparing issues regarding the highest sensitivity and specificity simultaneously between points.

10- From a clinical point of view and the importance of applying the results, the opinion of a clinical specialist is important.

Reply: Thank you for your constructive comments. We used a clinical expert in our team and considered his opinion too.

3 Revision 2

1 comment · 11 Jun 2023

Referee 2 Reviewer

MINOR REVISION 11 Jun 2023

Hi Dear authors:
The study is valuable, but some points should be considered and modified:
1. Abstract:
a. In line 3 of the methods section, “without GBM” is incorrect and should be replaced with “without ODG”.

2. Methods:
a. It is stated that 27 MRIs were in the edema group. However, there are 17 and 27 MRIs in the GBM and GBM-ODG groups, respectively. With 27 MRIs in the edema group, a total of 134 MRIs are included in the study, whereas with 34 MRIs in the edema group, a total of 141 MRIs are included in the study. These reports contradict each other. Please recheck these cases.

b. Please explain the sampling method clearly. Also, the effect size should be mentioned.

3. Results:
In table 4, what is the meaning of AUC Mean±SE?
Please explain.

4

Revision 3

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear Editors,

Thank you for your constructive comments. We replied and highlighted them in the text.

Reviewer 1:

The study is valuable, but some points should be consider and modify:

Thank you for your constructive comments.

1. Abstract:

a. In line 3 of methods section, “without GBM” is not true and it should be replace with “without ODG”.

Reply: It is revised.

2. Methods:

a. It is stated that 27 MRIs were in the edema group. But there is 17 and 27 MRIs in GBM and GBM-ODG groups , respectively. With 27 MRIs in edema groups, in total 134 MRIs are included in study and with 34 MRIs in edema groups, in total 141 MRIs are included in study that these reports contradict each other. Please recheck these cases.

Reply: It is revised. In total, 134 MRIs were studied which 57 were in the tumor group (GBM= 26 and GBM-ODG= 31 MRIs), 50 MRIs were in the T1W+GAD group (GBM= 26 and GBM-ODG= 24 MRIs) and 27 MRIs were in the Edema group (GBM=10 and GBM-ODG= 17 MRIs).

b. Please explain the sampling method clearly. Also, the effect size should be mentioned.

Reply: It is revised. Using G*Power version 3.1.9.7 and considering significant level 0.05 and power 80% for comparison, and the standard effect size 0.8 for comparison of two independent groups, 21 cases were determined for assessment. Also, considering the mean of ADC (2.3±1 VS. 1.7±0.7) in Zali et al.’s study, the effect size calculated was estimated at 0.7, and the sample size was estimated at 26 cases.

3. Results:

In table 4, what is the meaning of AUC Mean±SE?

It is added to comment under table: The area under the receiver operating characteristic (ROC) curve (abbreviated as AUC) is a single scalar value that estimates the general implementation of

a binary classifier. The AUC values range from [0.5 to 1.0], with the lowest value corresponding to random classifier performance and the highest value corresponding to an ideal classifier.

Best Regards,

4 Revision 3

1 comment · 11 Jul 2023

Referee 2 Reviewer

ACCEPT 11 Jul 2023

Hi dear authors
The manuscript has been revised, and there is no problem with publishing it.

5

Revision 4

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear editor,

Thank you for your constructive comments. We revised the manuscript and highlighted the changes in the text.

Comments

While the content of the article is informative and engaging, I noticed that there are some serious issues with the English language and writing method. As such, I recommend that you consider having the article professionally edited by a native English editor or an editing service with expertise in academic writing.

Reply: It is revised in the text.

Best regards,

5 Revision 4

0 comments

No public comments in this round.